

**“Making the Case for American Higher Education”
Remarks by MIT President Susan Hockfield
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As many of you may have noticed, yesterday in Phoenix, a certain contest held the attention of much of the nation. This contest of athletic prowess showcases great ambition and discipline, and galvanizes local and national interest and pride. The annual football season ends with a winner, but with the certain knowledge that next year’s season offers another chance to begin again, another cycle that will culminate in another national contest. Each annual repetition brings an annual champion, and with it, the perpetual comfort of knowing that next year will give each team another chance to be the champion.

To speak of another contest, tomorrow close to half of our states will play out quite a different national contest, but one with lasting consequences. While the presidential election cycle repeats every four years, each cycle differs from the last, and the work of the past inexorably lays the foundation for the future. Unlike football, with each presidential contest we do not reset the clock, nor do we begin with an empty scoreboard each time a new president comes into office.

Although we may not have quite the same spotlight, all of us in this room are part of yet another great new national contest: a struggle over the future of American higher education. It is a struggle that will also have long-term repercussions.

Let me start my discussion of this contest not here, but about 12,000 miles away, halfway around the globe. Last November, I visited India on behalf of MIT. In Mumbai, I was asked to address an audience of some hundreds of top Indian CEOs. They wanted me to talk about one thing: What makes American higher education so successful? What makes it such a force for innovation and social mobility? And what steps could they take to give India’s system of higher education the same nimbleness and creativity? The answer is complicated, but it comes down roughly to three things: Competition, flexibility and openness.

First, competition. We compete for students, for faculty and for funding. I can’t say that we always enjoy the contest, and the system has its inefficiencies. I’m convinced, however, that the need to compete is very good for us, intellectually. A healthy competitive environment drives us to work harder to do our best and focuses our use of resources where they can have the greatest impact. The open competition between educational institutions has also spawned another strength: The American system promotes a wonderful variety of institutions, for a wide variety of students. That diversity of options is well represented by the leaders in this room.

The second factor is flexibility. Our government has allowed us almost total independence in curriculum and research. And by having multiple sources of revenue -- tuition, endowment and research grants -- we also gain the flexibility to run our operations as we see fit, and to change with the times. We have the freedom to respond to the needs and interests of our students, to the evolving nature of our research, to the long-term health of our institutions, and to the moving target of the nation’s best interests.

The final factor is openness. The American system thrives on our unswerving commitment to intellectual openness. This takes two forms, intake and output. At MIT, we are committed to building a diverse community, where what matters is the value of your intellect, not your family's income or your race, gender or religion. In its output form, we share broadly the product of our work. This commitment to openness has blossomed most recently in open sharing of content over the Web.

These are not necessarily, or not yet, the defining features of higher education in India, nor in China, where I was asked much the same questions a year before. For my Indian audience, this was a galvanizing message. Why should we care about the judgment of those Indian CEOs? I can think of two reasons. First, it gives us perspective on the value of American higher education, at a time when this extraordinarily successful model is under siege here in our country, and second, it puts us on notice that the competition that has made us so strong is going global. The world is watching what we have done and is aggressively imitating our success. Other countries are using our paradigms as the building blocks for their future strengths. Let me be clear: I welcome that competition. If we embrace it, it will inevitably make us smarter, stronger and more innovative. But we ignore it at our peril, both as institutions, and as a nation.

I want to talk about both these points today: about the value of American higher education, and the urgent need to keep it strong. First however, I want to offer a little history. The colleges and universities represented in this room don't cluster neatly on a graph. We range from big to small, urban to rural, academically broad to focused, rich to not so rich. That variety is a huge strength of the American system. It's interesting to note, though, that despite our variety, all of our institutions descend from an idea first hatched in the 19th century. It was a distinctively American concept, one that Thomas Jefferson was among the first to articulate: the idea that our democracy depends on an educated populace. In 1806, Jefferson actually proposed to amend the Constitution, to allow the government to support education, because, as he wrote:

“Every government degenerates when trusted to the rulers of the people alone. The people themselves are its only safe depositories. And to render even them safe, their minds must be improved An amendment to our Constitution must here come in aid of the public education.”

By 1837, Horace Mann was arguing that universal education was not only a safeguard of democracy, but an essential tool of social stability and social justice. He put it this way:

“According to the European theory, men are divided into classes -- some to toil and earn, others to seize and enjoy.... Our ambition... should...propose to itself a different object. Its flame should be lighted at the skies! Its radiance and warmth should reach the darkest and the coldest of abodes.... Education then, beyond all other devices of human origin, is a great equalizer of the conditions of men -- the balance wheel of the social machinery.”

This passion for universal education grew into a movement for free common schools. Within decades, much the same spirit would inspire the Morrill Act and the establishment of the Land Grant colleges. Suddenly, higher education was not only a convenient place to polish the sons of

Eastern privilege; it was a springboard to a new kind of scientific agriculture, and a ladder out of every kind of grinding toil for young strivers across the country.

As America came into its own as an industrial power, higher education went with it, hand in hand, cranking out the engineers and inventors, the teachers and leaders of the day. By World War II, America's great universities were hot beds of new thinking; in focusing that creative energy on the terrible challenges of warfare, higher education produced countless innovations. One of them, radar, was developed at MIT, and is considered by many to have been the technology that won the war.

Another innovation to come out of World War II was the federally supported research university itself, with its dual mission of research and education. Its impact has been equally profound, from the moon landing to microchips. As a renowned MIT economist, Robert Solow, has calculated, more than half of America's economic growth since World War II can be traced to technological innovation. The link between economic growth and innovation is now economic gospel. And much of that innovation springs from the talent and discoveries produced by American higher education.

After the war, the GI Bill took the great machine of America's colleges and universities, poured in an unprecedented quantity of talent, and multiplied our broad, ambitious and prosperous middle class like nothing the world had ever known. Today, a college degree is still the key that unlocks the unmatched social mobility that defines America. We all know the data: over a working lifetime of 40 years, a college graduate will earn 73 percent more than someone with only a high school degree, an individual gain of more than a million dollars.

So, to review, if you'll allow me a little rhetorical license: In the United States, higher education has played a pivotal role in transforming American agriculture, building our modern industrial state, winning World War II, inventing the middle class, sending a man to the moon, launching the computer and biotechnology industries, developing the World Wide Web, and shaping the leaders and ideas that fuel our innovation economy. America's colleges and universities are indispensable to our individual social mobility, and to our shared economic prosperity. We change lives, and over and over, we have changed the nation.

That's not a bad record for an ivory tower; no wonder other countries are eager to copy what we have. Yet here at home, in the capital of the country we have served so well, this model is under assault. Our private higher education system stands on three sturdy economic legs: tuition, research funding, and philanthropy and endowment. Today, as we all know too well, Congress has systematically threatened the strength of all three. It is contemplating price controls on tuition. It proposes to manage our endowments for us. And it has steadily disinvested in research. Those facts are challenging, for us as institutions.

I would argue, however, that they should be tremendously troubling for us as a nation, as well. To explain why, let me offer a few telling facts. According to a Shanghai Jiao Tung University's survey, 17 of the world's top 20 research universities are here in the United States. Yet China is pouring billions of dollars into building and staffing a swath of new universities, with the express

goal of getting five of them into that top 20 ranking within 15 years. Whether you believe they can achieve that vision in this time frame or not, it is a glimpse into a serious new competitive landscape.

Some other powerful numbers come from a new study by the OECD's Programme for International Student Assessment. In the United States we still have the world's most highly educated workforce -- but we are quickly losing our lead. In the 1960s, we had the highest high-school completion rate in the developed world. By 2005, we ranked 21st. In terms of college completion, as recently as 1995, we ranked 2nd. In 2005, we ranked 15th. What's the explanation? Let me quote from the study. We slipped in the rankings "not because U.S. college graduation rates declined, but because they rose so much faster in many OECD countries. [American] Graduate output is particularly low in science." As an example, in the United States, for every 100 24-year-olds, six have a degree in Natural Science or Engineering. In Taiwan, the number is 16.

Finally, the US still wins far and away the largest number of the world's most prestigious science and technology prizes. Over the last two decades, 128 went to scholars at US universities -- more than ten times the number for our nearest rivals. But if we can't reverse the stagnation in U.S. science and engineering Ph.D.s, we cannot expect that dominance to last.

In the United States, we are very good at developing leaders, whether the right fit for a given student is a liberal arts institution, or a historically black college, or a women's college, or a school that celebrates a particular faith tradition or a major research university. By making the most of our talent, our system of higher education has made the US an economic and intellectual powerhouse for a long, long time. Today, as we see that position eroding, should we also be eroding the supports of our colleges and universities? I don't think so, and I believe the American people would agree.

The public sees higher education as an American institution that really works. According to a recent survey published in the *Chronicle of Higher Education*, almost nine in ten Americans believe high school graduates will have better job prospects if they go to college, and of course they're right. As the U.S. Census tells us, over the past 20 years, the only households that saw their real incomes rise were those headed by someone with at least a college degree.

Unfortunately, the future of this highly productive system does not come guaranteed, and this is not the time to throw a wrench in the works. Does taking this position mean that we reject every critique of higher education? Certainly not. In fact, we are responding, in creative new ways, many of them highlighted on the NAICU website.

In response to calls for greater transparency, for instance, NAICU itself launched "U-CAN," an online resource that allows families to compare 600 institutions on an apples-to-apples basis. On the challenge of affordability, NAICU members have offered a range of responses. Some institutions have replaced loans with grants, or extended aid farther up the income scale, or both. Some private institutions will match state-school tuition for applicants accepted both places. Others guarantee every student unchanging tuition for four years. At MIT, from 2001 to 2008, we doubled our financial aid budget, and we now match every Pell grant

dollar for dollar. Needless to say, these are expensive policies. The good news is that many colleges that can't afford to make such moves are improving access in their own ways: by offering the small classes and personal attention that can help an aspiring college student become a real college graduate, and a thoughtful, contributing citizen-leader.

Other access innovations include offering accelerated degrees, or allowing high school students to take for-credit courses at a bargain rate. At MIT, we approached the challenge of broadening access by making all of our course materials available online, for free, in MIT's OpenCourseWare. OpenCourseWare now receives about 1.8 million visitors a month, and has spawned a trend that's taking off around the world.

There are a lot of good ideas out there. We need to share them and to build on them. As institutions in the business of teaching critical thinking, I'm convinced we can continue to think critically about ourselves and develop even more effective approaches. For that reason, I'm equally convinced that this is no time for the Federal government to move into the business of managing higher education. Those improvements are ours to make, and we had better get down to it, before the decisions are taken out of our hands.

In this unfamiliar era, different institutions feel different pressures. But no matter what our particular circumstances, we all have a serious stake in the outcome. I believe that we will weather this debate with Congress. But to do that, we must work together to do three things:

First, we need to help members of Congress understand that they are tinkering with a precious and productive machine, one that has produced remarkable value for generations of individual students and for our society as a whole. Let me offer this 1963 quote from Clark Kerr, who was then head of the University of California system:

"The university today ... faces a new role with few precedents to fall back on... We are just now perceiving that the university's invisible product, knowledge, may be the most powerful single element in our culture, affecting the rise and fall of professions and ... of social classes, of regions, and even of nations."

Or to put it another way: If a company stops investing in research and stops developing leaders, common sense says that it's throwing away its future. If we stand by and allow our country's unique model of higher education to be compromised and dismantled, we will be throwing away the future of our country, too.

Second, we need to help the public and Congress understand that educational access is a broad, deep challenge for our whole society. Like Thomas Jefferson and Horace Mann, as a nation we still believe that education should be available to everyone, because it delivers the kind of open, stable, prosperous democracy we prize. But that ideal comes with a serious price tag. That ideal requires a strong, cooperative partnership between our government and our institutions of higher education. Achieving that ideal goes far beyond making marginal shifts in the investment rules and pricing strategies of a few outlier institutions that educate a small fraction of America's

students. We cannot solve the problem of access one high-profile media event at a time. And we can't solve it with top-down, cookie-cutter approaches; the diversity of our institutions is our great strength. But we do need to look hard at what a solution might actually require.

For instance, government might want to look at its own contributions. Until recently, state governments understood that higher education for their people was key to their prosperity and well-being. Yet across the country in the past fifteen years, the most striking theme in higher education has been the collapse of state support. On the Federal side, for the four years until this one, Pell Grants had been frozen.

The long stagnation in federal support for research is approaching the dimension of the tragic, in lost opportunities for innovation, talent and knowledge. Since the end of the Cold War, funding for research in the physical sciences has been flat. Even in the health sciences, NIH funding has been flat since 2003. Think about the consequences: NIH is the federal organization that over the past 30 years invested about \$4 per American per year in cardiac research. With that investment we've cut mortality from heart attacks and strokes by more than half. Yet despite this kind of remarkable return on investment, federal research dollars have declined from 2% of GDP in the mid-1960s, to less than .8% in 2005. It's no wonder that more and more promising young scholars are finding greener pastures abroad.

Finally, we need to make sure we come here to the Capital, and that we are heard. I come to Washington every four to six weeks. When I met with Senator Rockefeller recently, he was very direct. He said that the leaders of America's colleges and universities need to come to Congress, in person, and make their case to the delegations and the committees, and not just once a year. We need to explain our mission of service to the nation. We need to explain the contributions we've made in expanding social mobility, in growing opportunity, and most of all, in providing the new leaders and new knowledge that feed our innovation-hungry economy.

Our story is not well understood, by Congress or the public. And it never will be, unless we tell it ourselves. We need to make our case as individual leaders. We need to support NAICU in its efforts to speak for us. We also have to find new ways to speak together, telling this vital story with a single voice. In short, we need to get out of the stands and onto the playing field. It is certain that in this contest, we will all feel the heat. But when it comes to the value of American higher education, I believe we can also help the country see the light.